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ECOSYSTEM SERVICES

Whaleback Ridge Wind Farm
EAGLE NEST SURVEY

2nd July 2026

For Westcoast Renewable Energy

ERA031

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ACKNOWLEDGEMENTS

Project Name	Whaleback Ridge Wind Farm
Location	Heemskirk & Pieman Road Region
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NBES Project Summary	Eagle habitat and nest search results
Fieldwork	Jared Parry, Nick Mooney (Wildlife expert), Adam Hardy (Predatory bird specialist), Jessica Binns (BESc)
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Version	Date	Author & Position	Comment
Version 0.1	30/06/2026	Jessica Binns – Ecologist	Draft
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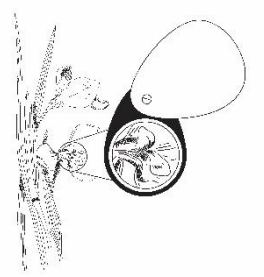

EXECUTIVE SUMMARY

Westcoast Renewable Energy is proposing the development of a wind farm, *Whaleback Ridge Wind Farm*, and associated infrastructure on the west coast of Tasmania, in the Heemskirk and Pieman Road Region.

North Barker Ecosystem Services (NBES) were engaged to conduct an aerial survey of eagle nesting habitat to verify previously recorded and identify any new nests within 1 km of the project area boundary. The nest search was conducted on the 15th, 20th and 21st of June 2026.

Prior to our survey, a total of three nests were known to be present within the search area (according to information published on the Tasmanian Natural Values Atlas (NVA) and previous nest searches of this site) with all three nests located within the 1 km buffer of the Project Site. Three additional nests were known to be absent within the Project Site.

During this survey, all three previously known nests were relocated. Two nests were assessed to be in 'good' condition for nesting, while the third nest was assessed to be in 'poor' condition with potential for derelict classification. All 'absent' nests were not found.

No previously unreported ('new') eagle nests were detected within the project area during the survey.

The locations of the recorded nests have implications for the design and future development of the proposed wind farm. Our report provides some recommendations to aid with the requisite avoidance/buffering of impacts to all known nests.

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1. INTRODUCTION

1.1. BACKGROUND

Westcoast Renewable Energy (WRE) is proposing the development of a wind farm and associated infrastructure across the Whaleback Ridge Wind Farm Project Site on the west coast of Tasmania covering ~40,630 ha. It is broadly centred around Lake Pieman, extending ~10-15 km south to Trial Harbour Road, ~13 km southwest to the coast, and ~5-12 km north to the north of Pieman Road.

The proponent engaged North Barker Ecosystem Services (NBES) to conduct an aerial survey of nesting habitat for the Tasmanian wedge-tailed eagle (*Aquila audax fleayi*) and the white-bellied sea eagle (*Icthyophaga leucogaster*) within 1 km of the Project Site boundary (at the time of the survey).

1.2. EAGLE ECOLOGY

The Tasmanian wedge-tailed eagle (TSP Act endangered / EPBC Act endangered) nests in mature native forests and is dependent on forest habitat for breeding. The species generally selects large, sheltered trees for nesting and is highly sensitive to anthropogenic disturbance during the breeding season[1]. Territories can contain up to five alternate nests usually close to each other but may be up to 1 km apart where habitat is locally restricted. They hunt and scavenge on a wide variety of fauna including birds, mammals, reptiles and fish [2].

In Tasmania, the white-bellied sea-eagle (TSP Act vulnerable) typically nests within 5 km of coastlines, major estuaries and inland lakes[3]. Nests are typically built in large eucalypts like the wedge-tailed eagle, but the species has more flexible requirements. It may also use smaller or more exposed coastal trees (occasionally non-native species such as Pinus radiata), and in predator-free island environments, may nest on sea cliffs or even on rock piles at ground level.

These habitat preferences have been incorporated into predictive nesting habitat models, including those available through Tasmania's Natural Values Atlas (NVA) and are routinely used to guide targeted nest searches.

The eagle breeding season spans from the beginning of July until the end of January and is extended into February in seasons where breeding progress is later than normal, which is determined annually by the Forest Practices Authority in around November each year[4]. During this breeding period, both species are particularly susceptible to anthropogenic disturbance around nest sites.

2. METHODS

2.1. SURVEY AREA

The Project Site and preliminary development zone was supplied as spatial data to NBES by the client. The eagle nest search area covers approximately 52,078 ha. This is comprised of a 1 km buffer of the Project Site, with areas within a 1 km buffer of the preliminary development zone prioritised for search effort.

The Project Site comprises a mosaic of buttongrass moorland and heath, with areas of mature temperate rainforest, mixed forest and wet sclerophyll forest. Potential wedge-tailed eagle nesting habitat is generally limited to mature forest containing large eucalypts in sheltered locations, with extensive areas of the study area unlikely to provide suitable nesting habitat. Areas surrounding Lake Pieman and coastal areas provide potential nesting habitat for white-bellied sea-eagles. However, large areas of the

[1] Bekessy *et al.* (2009)
[2] Forest Practices Authority (2024)
[3] Forest Practices Authority (2024)
[4] Forest Practices Authority (2024)

Project Site have historically and recently (September 2025) been affected by fire, further limiting the availability of suitable nesting habitat for both species.

2.2. BACKGROUND RESEARCH AND PLANNING

As an exploratory desktop process, all habitat within the search area was considered against the suitability index of the Forest Practices Authority's (FPA) eagle habitat model[5]. Whilst this model provides guidance for areas of highest eagle nesting potential in typical habitats, it is best practice to consider all habitats within a search area when conducting the aerial search, to ensure the model has not misrepresented habitat patches and to establish if nests are present outside of areas mapped as highly suitable. Marginal habitats can include wildlife habitat clumps and streamside reserves adjacent to forestry and mining operations. It was thus proposed to search the entire area of habitat to determine habitat suitability[6], and to prioritise nest searching where habitat was most suitable.

The desktop assessment also reviewed all known (previously reported) eagle nests within the survey area. This assessment aimed to determine the last recorded status of each nest and assess the accuracy of the reported locations. Prior to the 2026 survey, a total of three eagle nests were documented as 'present' and three eagle nests documented as 'absent' within the survey area boundary on the Tasmanian Natural Values Atlas (NVA)[7].

2.3. SURVEY TEAM

The survey was led by NBES Lead Ecologist Jared Parry who was accompanied by wildlife expert Nick Mooney, predatory bird specialist Adam Hardy and NBES ecologist Jessica Binns. Jared is the project manager for NBES's work on this project and has over four years' experience conducting searches for eagle nests. Jared is also Forest Practices Authority accredited in Eagle Habitat Identification and Management. Nick has over 47 years' experience in eagle nest searches, activity and productivity assessments in Tasmania and is widely accepted as an expert in his field. Adam has over 20 years' experience in researching raptors and over 300 hours of experience searching for eagle nests and nesting habitat. Jessica has over three years' experience undertaking and leading eagle utilisation surveys and numerous hours of experience searching for eagle nests. Flights were piloted using Helicopter Resources Tasmania, with pilot Andrew Harrison. Andrew has been a helicopter pilot for over 20 years and has extensive experience undertaking low-level surveys.

2.4. AERIAL NEST SURVEYS

Aerial surveys were undertaken by helicopter[8] (according to current best practices and industry guidelines[9]) on the 15th, 20th and 21st of June 2026, under favourable weather conditions, with excellent visibility and mostly calm weather prevailing throughout. These conditions allowed for continuous surveying without any weather-related downtime throughout the entire survey effort. Approximately 22 hours were spent searching the area (searching was conducted in 2-3 hour blocks due to refuelling, this aids in limiting fatigue and potential loss of efficacy of searching), traversing approximately 1,395 linear kilometres within the search area (Figure 1).

The surveys involved slow flying transects above the tree canopy or where possible, below the adjacent canopy level, such as through gullies and river valleys. The transects were regularly spaced as much as practicable, with transect spacing at 100-300 m between passes. Survey time was inversely proportional to potential nesting habitat quality and openness of habitat, thus varying with vegetation type, being closer together where habitat was highly suitable and tree cover was dense, to further apart where trees were sparse and habitat less suitable. Marginal potential habitat was also surveyed (with transects) to

[5] Forest Practices Authority (2014)
[6] Department of the Environment, Water, Heritage and the Arts (2010)
[7] Department of Natural Resources and Environment (2026)
[8] Aerial surveys are considered to be more effective and efficient in large search areas.
[9] Environment Protection Authority Tasmania (2023); Forest Practices Authority (2024)

ensure small wildlife habitat clumps, coupes of potential nesting habitat, and low scoring habitats were not missed. All known nests within the search area (identified through the NVA database and previous site knowledge) were visited to confirm their condition and presence.

Once a nest was located, its condition and features were described *in-situ*, including with the assistance of binoculars, to enable observers to remain distant from the nest. Owing to the nature of the task that sometimes involved hovering near the canopy, and potentially presenting risks to local birds and to observers, nest observations were kept as short as possible and only long enough to verify presence and condition. To further reduce potential disturbance, all nest observations were photographed using a high-quality camera setup and only GPS recorded (using a handheld non-differential GPS) if the previously reported position had low reported spatial accuracy and had evident scope for improvement. Where it was necessary to take a new GPS point for updated location, this was done by slowly approaching the nest location with a countdown to the point of intercepting the point directly above the nest (but at a height beyond potential rotor wash, at which time the point was taken – this allows for an accurate nest point without the unnecessary disturbance of hovering directly over the nest.

To complement the *in-situ* observations, images of each nest were later analysed to further inform the assessment of their condition. Characteristics assessed included the presence of fresh green leaves, stick coloration (brown, grey or bleached), white-wash, algal leaching, nest shape (flat-topped or concave bowl), presence of down/feathers, remains of prey, and the presence of birds[10].

The integrity of each nest was then classified as either good, average, or poor (Table 1). These classifications indicate the condition of the nest, derived from the assessment forms of the Forest Practices Authority. For this report, the categories used in this survey are more indicative of the time since the nest's last use and its likelihood of future use. Here, 'good' denotes nests in excellent condition and likely to have been used for breeding in recent years, while 'poor' signifies those least likely to be active based on their condition.

Nests in particularly 'poor' condition can now be submitted to the NVA or FPA (if on timber production land) for assessment by experts to determine if the nest is too degraded to be used again by breeding eagles (classed as derelict). If deemed derelict, it will be designated as such on the NVA, exempting it from further management constraints such as seasonal avoidance buffers and development exclusion areas.

A Raptor Nest Search Form can be found in Appendix A.

[10] Forest Practices Authority's nest activity assessment forms

Table 1: List of nest attributes indicating the condition classification of 'Good', 'Average' or 'Poor'[11]

Good	Average[12]	Poor[13]
• Strong support • Tight stick weave/ good structure • Flat compressed surface or neat bowl • Smooth, gradual edges • Minimal or no bleaching on edges • Rounded or oval shape • Fresh brown sticks on top • No rotting sticks • No holes through nest • Fresh green leaves or whitewash* ***(Not necessary but a good indication of recent use)**	• Relatively stable support • Intermediate stick weave/ structure • Flat uncompressed surface or untidy bowl • Gradual edges with some protruding sticks • Considerably bleached sticks • Almost round or oval shaped • Some brown sticks • No rotting sticks • No holes through nest • No fresh green leaves but some whitewash* ***(Not necessary but a good indication of recent use)**	• Potentially unstable support • Loose stick weave/lack of structure • Domed surface, no bowl • Lop-sided or falling apart • Very bleached sticks • Irregular shape • No brown sticks • Rotting sticks • Visible holes through nest • No fresh green leaves or whitewash

2.5. LIMITATIONS

Owing to the large size of the search area, it was not feasible to check every individual tree, nor to conduct multiple passes of all potentially suitable habitat. Therefore, there is a possibility that nests may have been missed owing to being obscured from view by other trees or dense canopy cover, which are general limitations of the method.

To minimise the chance of missing a nest, we used three observers and a pilot with extensive experience in low-level flying. Moreover, when navigating through various types of vegetation, the altitude, speed and distances between transects varied depending on canopy cover and topography in relation to the potential for missing nests. For instance, in areas with sparse canopy cover, observations were made at higher altitudes to maximise visibility, whereas in areas with dense canopy cover, low and slow flights with closer transects were conducted, with particular attention given to areas of high habitat suitability.

Tree and nest heights are estimates only and generally taken as an average estimate across the three observers.

[11] Note that classifications of individual nests are done on the weight of averages across trait classes and as such a nest in any given class does not necessarily need to meet the class definitions for every variable

[12] Still viable and could be re-built and used in the future

[13] Potentially not viable and may be confirmed by experts as 'derelict'; only once its status has changed on the NVA can it be officially 'derelict' and thus not be subject to management/development constraints

3. RESULTS

No previously unrecorded eagle nests were discovered during the survey. All nests previously marked as 'present' on the NVA were relocated.

3.1. INCIDENTAL OBSERVATIONS

Incidental observations of raptors within the search area were noted during the survey. The number of wedge-tailed eagles, white-bellied sea-eagles and grey goshawks observed is outlined in Table 2.

These birds were observed perching and flying across the site, with some observed within 50 to 250 m of a nest. It should be noted that these numbers might not represent the number of individuals in the search area as the same birds may have been detected more than once throughout the survey period.

Table 2: Incidental observations of eagles within the search area

Species	Number of mature birds	Number juvenile birds	Total
Tasmanian wedge-tailed eagle *Aquila audax fleayi*	16	1	17
white-bellied sea-eagle *Icthyophaga leucogaster*	1	0	1
grey goshawk *Tachyspiza novaehollandiae*	7	0	7
		Total	**25**

3.2. KNOWN NESTS – CONFIRMED STILL PRESENT

The three known eagle nests identified within the survey area were visited to confirm their status and condition. The three nests were confirmed present.

All three located nests were found within the Project Site buffer and in locations mapped as having very low (<3) habitat suitability on the FPA's eagle habitat suitability model. Nest 3602 is within 500 m direct distance (considering potential GPS inaccuracy of 10 m) of the Project Site boundary and is in 'good' condition. Nests 3600 and 3601 are located between 500 m – 1 km from the Project Site boundary, with nest 3600 in 'good' condition and nest 3601 is 'poor' condition.

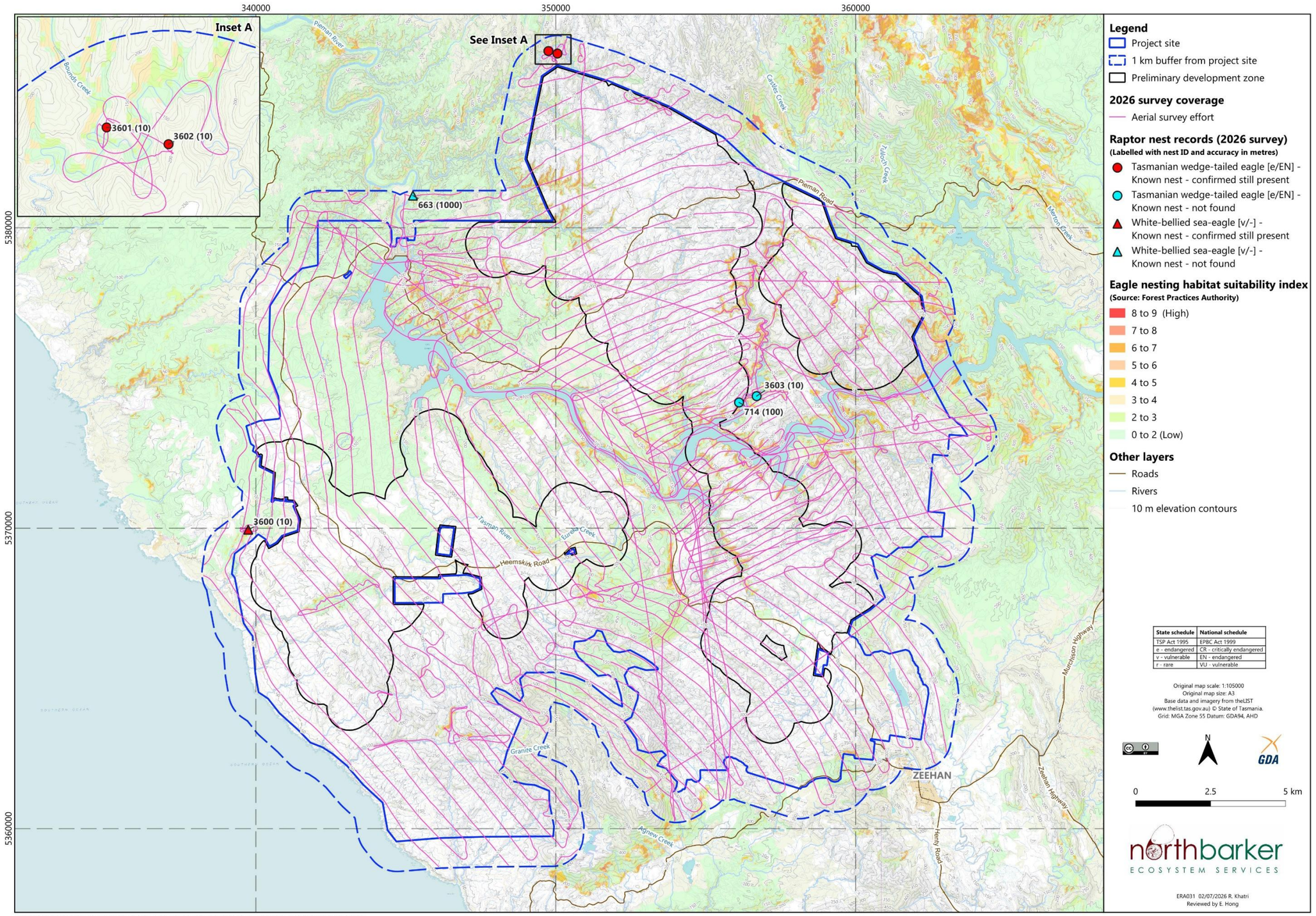
The locations of these nests are visualised in Figure 1, with a summary of each nest provided in Table 3. Detailed maps showing the location of each known nest in relation to the Project Site, preliminary development zone and preliminary wind turbine envelope are provided in Appendix B. Photographs of each nest are provided in Appendix C.

3.3. ABSENT NESTS

Three eagle nests were documented on the Tasmanian NVA as 'absent' within the search area. These nests were not relocated during the survey.

Table 3: Nests confirmed as still present in 2026 survey, with location details and 2026 condition classification; WTE = wedge-tailed eagle, WBSE = white-belled sea eagle

Date Surveyed	NVA Nest ID	Easting	Northing	Nest Condition	Likely Species	Position Accuracy (m)	Comments
20/06/2026	3600	339743	5369948	Good	WBSE	10	Nest history: This nest was found in June 2025 and was most recently observed by Nick Mooney as a part of nest activity check in October 2025. The nest was determined active for the 2025/26 breeding season, with a white-bellied sea eagle seen perched on the nest. Nest condition: This is a large nest in a ~37 m tall *Eucalyptus nitida*, approximately 33 m high in the tree. The nest has a good nesting bowl structure with fresh brown sticks and leaves. This nest is viable. Nest images See Appendix C, Plate C1
15/06/2026	3601	349752	5385879	Poor	WTE	10	Nest history: This nest was found in June 2025 and was most recently observed by Nick Mooney as a part of nest activity check in October 2025. The nest was also located in October 2025 during a nest activity assessment, however, was disintegrating in a tree dead from a wildfire. Nest condition: This nest is in a ~40 m tall dead *Eucalyptus* tree, approximately 28 m high. The nest is in a deteriorating condition and is bleached. WTE was seen flying nearby. The nest was determined as derelict. Nest images See Appendix C, Plate C2
15/06/2026	3602	350056	5385797	Good	WTE	10	Nest history: This nest was found in June 2025 and was most recently observed by Nick Mooney as a part of nest activity check in October 2025. The nest was determined inactive. Nest condition: This is a large nest in a ~45 m tall *Eucalyptus nitida*, approximately 38 m high in the tree. The nest has a good nesting bowl structure with fresh brown sticks. This nest is a viable breeding nest. A wedge-tailed eagle was seen flying nearby the nest. Nest images See Appendix C, Plate C3



The mapping has been undertaken using a hand held GPS and subjective interpretation. Consequently it should be considered indicative only.

Figure 1: Aerial nest search survey tracks and results

4. CONCLUSION AND IMPLICATIONS

An aerial nest survey was conducted within 1 km of the current Project Site for the proposed Whaleback Ridge Wind Farm in western Tasmania.

The three previously known nests within the survey area were relocated. Two of the nests (Nest ID 3600 and nest 3602) were determined to be in good condition and viable for breeding while the third of the nests was determined to be in poor condition (Nest ID 3601).

A derelict nest is a nest that is unlikely to be used again for breeding, although some old nests can occasionally be repaired and reused. A nest is generally considered derelict if it is badly deteriorated or has physical damage that makes it unsuitable, such as a broken support branch or a branch blocking the nest. In this case, the nest is degraded but does not have those structural or physical limitations. The NVA and FPA can formally determine whether a nest is derelict and no longer expected to be suitable for future breeding[14]. If this determination is made, the nest is managed as an 'absent' nest rather than an 'active' nest. For the proposed development, this means that the nest is not treated as an active breeding site, so seasonal breeding restrictions associated with active nests would not apply.

It's important to note, however, that new nests are regularly built or discovered. Consequently, aerial eagle nest search results are generally considered valid for only two years[15]. The current aerial nest survey remains valid until 21/06/2028, after which an updated survey will be required. To ensure the most current information is available for project planning and compliance, we recommend repeating aerial nest surveys every two years.

The locations of the nests have implications for the project design and future development of the proposed wind farm. Unless a nest has been formally determined by the FPA to be derelict and no longer expected to be suitable for future breeding, the following avoidance and management measures should be incorporated into project design and planning for all known and present nests:

- Consultation with the NVA and/or FPA to assess whether nest 3601 can be classified as derelict. If confirmed, it will be managed as an absent nest and active nest seasonal constraints will no longer apply, although ongoing nest searches should continue.
- Exclusion of wind turbines within 1 km of all known eagle nests.
- Limitations on potentially disturbing design elements (e.g. access roads and associated infrastructure) within 500 m direct distance and/or 1 km line-of-sight of eagle nests, to avoid seasonal management constraints when active.
- No clearance or construction within 200 m of any tree that contains an eagle nest.
- If infrastructure is proposed within 1 km of a known nest, undertake viewshed analyses to inform management constraints within the 1 km line-of-sight buffer affected nests.
- Further consultation with eagle management specialists, including the development of a project specific nest management plan when recommended avoidance buffers and/or seasonal management constraints cannot be achieved.
- All known nests must be treated as 'active' from July 1 until a nest activity check can be conducted to determine the status of the nest. This is typically conducted in October/November and must be undertaken by a suitably qualified eagle specialist.

[14] Forest Practices Authority (2023)
[15] Forest Practices Authority (2024)

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APPENDIX A – RAPTOR NEST SURVEY FORM

Location: Heemskirk & Pieman Road region, west coast Tasmania.

Grid Coordinates - Centroid: 352226 E, 5370720 N (GDA94, Zone 55)

Action	Person	Date	Result
Previously searched?	Nick Mooney Nick Mooney Nick Mooney NBES	May/June 2022 June 2025 October 2025 June 2026	No new nests found Three new nests found Activity assessments No new nests found
Potential nesting habitat assessment	NBES	29/05/2026	Potential nesting habitat area as indicated but not limited to the FPA nesting suitability index (see Figure 1).
Search of nesting habitat	Jared Parry Nick Mooney Adam Hardy Jessica Binns	15/06/2026 20/06/2026 21/06/2026	Three previously known nests relocated – All present, two viable (good condition) and one derelict (poor condition) See Figure 1 for detailed results.
Follow-up search?	In two years	15/06/2028	
Nest site added to NVA **Reserve added to planning maps/GIS**	NBES	Pending	Updated nest coordinates to be submitted to the NVA

APPENDIX B - MAPS OF RECORDED PRESENT NESTS

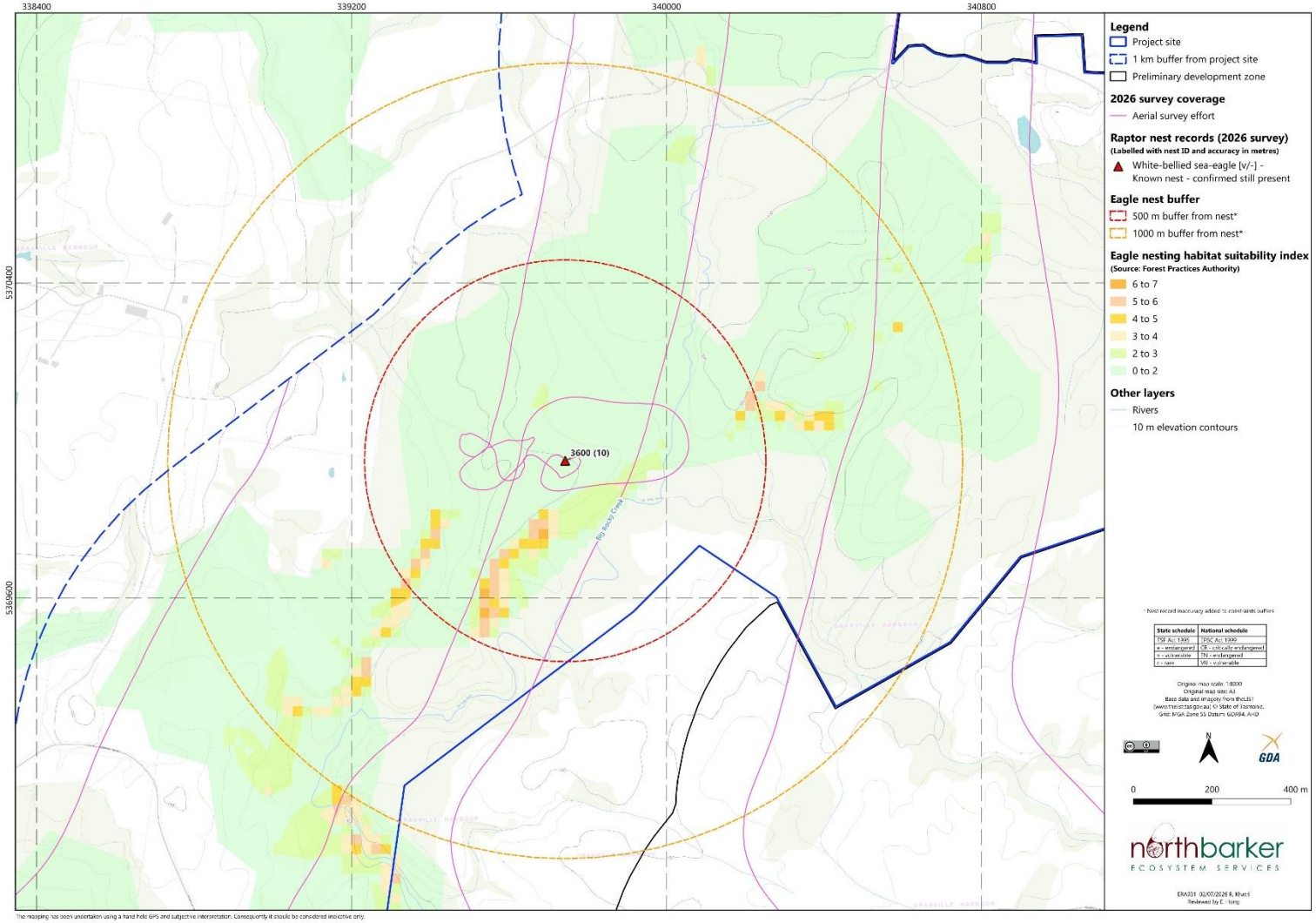

Figure B1: Nest ID 3600 with a 500 m and 1 km buffer

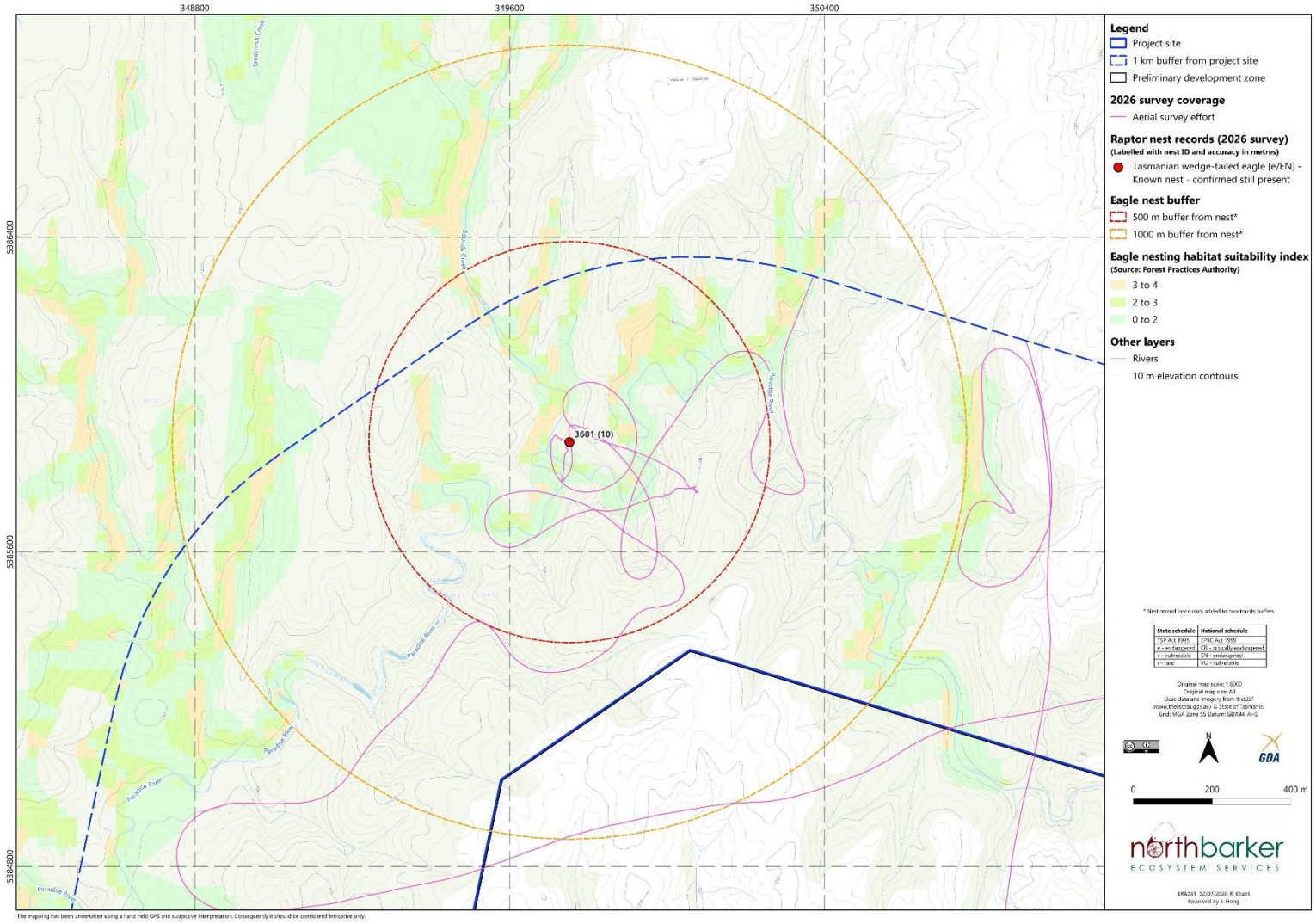

Figure B2: Nest ID 3601 with a 500 m and 1 km buffer

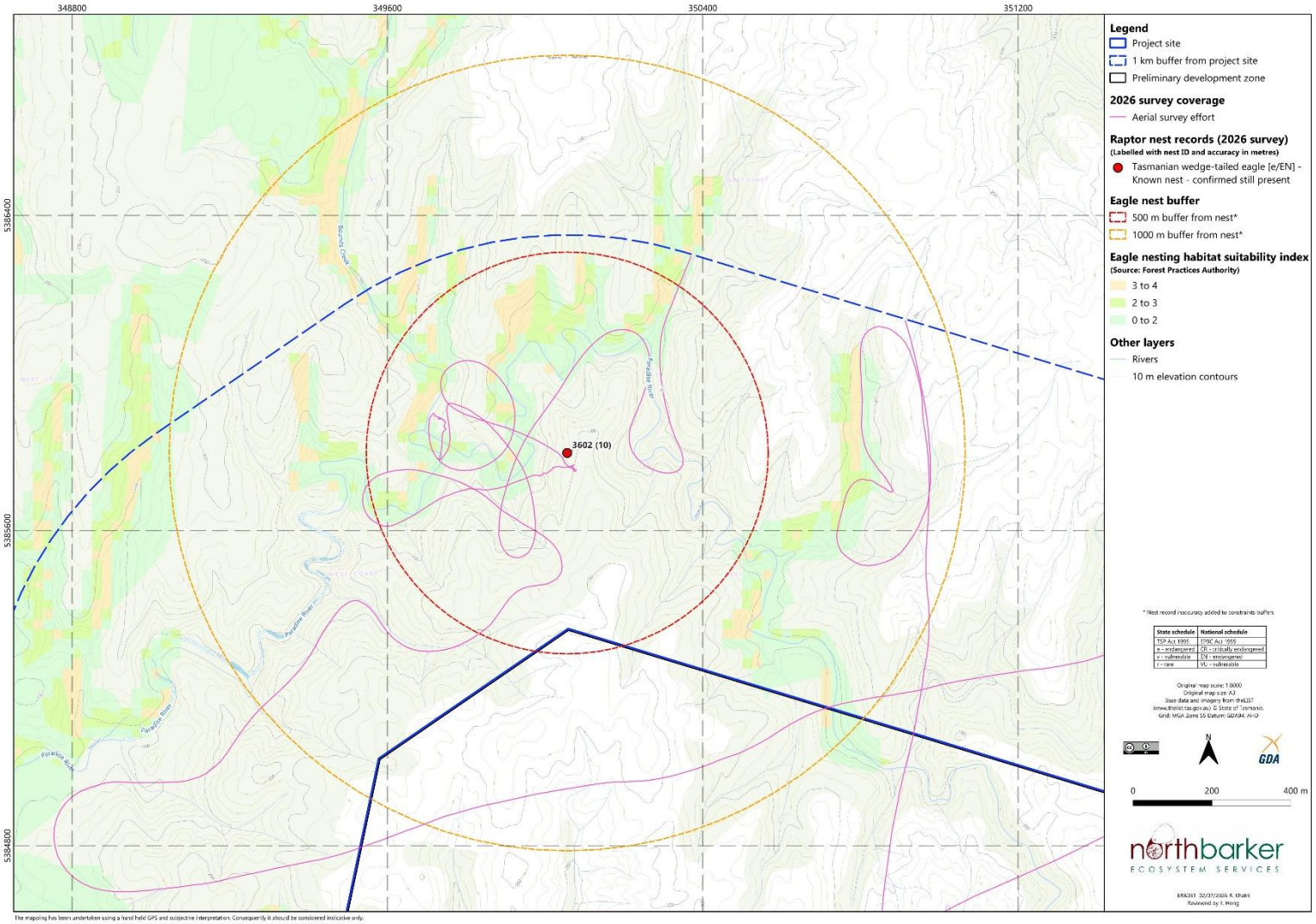

Figure B3: Nest ID 3602 with a 500 m and 1 km buffer

APPENDIX C - PHOTOGRAPHS OF RECORDED NESTS

Plate C1: Nest ID 3600

Plate C2: Nest ID 3601

Plate C3: Nest ID 3602